

1 What is claimed is:

2 1. A thin flange for use with a vacuum system comprising;

3 a member having a first face having a sealing surface and an opposed, substantially
4 parallel second face having a sealing surface, wherein the first face sealing surface and the
5 second face sealing surface comprise a knife edge.

6 2. The thin flange according to claim 1 further comprising a plurality of through
7 holes configured to be alignable with a plurality of bolt holes disposed in a standard thickness
8 flange.

9 3. The thin flange according to claim 1 comprising at least one mounting feature
10 disposed within a perimeter defined by at least a first sealing surface.

11 4. The thin flange according to claim 3 wherein the at least one mounting feature
12 comprises at least one groove formed in an inner surface.

13 5. The thin flange according to claim 3 wherein the at least one mounting feature
14 comprises at least one threaded bore.

15 6. The thin flange according to claim 1 comprising at least one feed-through.

16 7. A vacuum component mounting system comprising:
17 a first flange having a sealing surface and a second flange having a sealing surface,
18 a thin flange disposed between the first flange and the second flange, the thin flange
19 comprising a first sealing surface and a second sealing surface being configured to interact with
20 the first flange sealing surface and the second flange sealing surface respectively and thereby
21 form a vacuum tight seal.

22 8. The vacuum component mounting system according to claim 7 wherein the thin

1 flange is retained between the first flange and the second flange by a clamping force urging the
2 first flange toward the second flange.

3 9. The vacuum component mounting system according to claim 7 wherein the thin
4 flange contains at least one mounting feature.

5 10. The vacuum component mounting system according to claim 9 wherein the at
6 least one mounting feature comprises at least one threaded bore.

7 11. The vacuum component mounting system according to claim 9 wherein the at
8 least one mounting feature comprises at least one groove formed on an inner surface of the thin
9 flange.

10 12. The vacuum component mounting system according to claim 7 wherein the thin
11 flange comprises at least one feed-through.

12 13. The vacuum component mounting system according to claim 7 wherein the thin
13 flange comprises a plurality of through holes configured to be alignable with a plurality of bolt
14 holes disposed in the first flange and in the second flange.
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